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Gender communication via email discussion list in an organizational setting

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Gender Communication via Email Discussion List
in an Organizational Setting

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Presented to

The Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science

by

Kimberly Harbert

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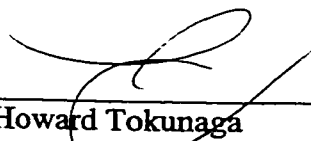
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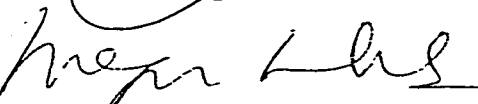
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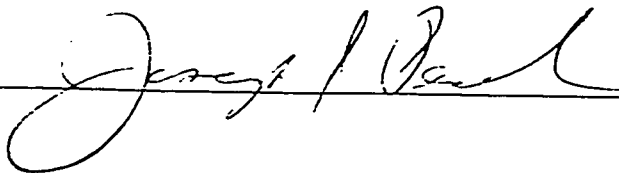


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ABSTRACT

Gender Communication via Email Discussion List in an Organizational Setting

by Kimberly Harbert

Lexical indicators, functional markers and posting purposes were examined via t-test, ANOVA and chi-squared analysis to identify gender CMC differences. Gender differences, as well as, similarities were evident in language usage and style in email messages. Whereas women's style remains consistent with previous studies, the findings suggested that men's style may have changed. The current study revealed two major differences: 1) women maintained their use of language indicators and supportive style as previously reported; and 2) men continued to be more assertive than were women; however, men also incorporated more language indicators and more supportive statements than previously reported. No differences were found regarding gender's posting purposes. The possibility that the current study contains a more accurate theoretical framework regarding gender communication styles than past research is discussed, as well as influences contributing to these changes and the importance of considering such changes to improve gender communication.

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Gender Communication via Email Discussion List In An Organizational Setting

Use of the telephone, post-office mail, photocopies, and face-to-face meetings has been changing into a world of voice mail, email, facsimile transmission, computer-mediated conferencing, and Internet and the Intranet. Exploring people's reactions and involvement in new communication technologies has become necessary as companies reach out to a virtual clientele. As conventional forms of communication give way to email and the use of electronic networks, research needs to be done to enhance our understanding of how to best integrate technology with the human dimension. Social-linguistic and feminist theorists have found significant gender differences in relation to cyberspace (Herring, 1994; Rossetti, 1997; 1994; Straub, 1997). My interest lies in how gender communication styles are played out in a cyberspace context (i.e. electronic network: email, discussion groups, World Wide Web). This research paper examines gender differences in an electronic mail discussion group. In order to arrive at an analysis of gender-related language differences in this medium, this paper first draws on more general gender concerns such as socialization, language use goals and Face to Face (FTF) versus Computer mediated Communication (CMC).

Cultural Concepts: Socialization, Communication and Power

Gender, as a social construct, both influences and is a product of communication. Messages delivered to people over many years, through different social situations and various media, become part of a daily vocabulary that can perpetuate gender stereotypes. From a very early age, males and females are taught different linguistic practices. This

can be easily observed in childhood play, where much of this conversational style is learned.

According to Rossetti (1997), the main difference between the way children communicate is that girls generally use language to negotiate closeness –that is, to establish intimacy as a basis of friendship (collaboration-oriented). but boys use language to negotiate their status in the group (competition-oriented). Girls, therefore, are more likely to phrase their preferences as suggestions, appearing to give others options in deciding what to do. They downplay ways of bettering one over the other and emphasize ways in which they are all the same. Tannen (1995) similarly reports that girls learn to talk in ways that balance their own needs with those of others. Boys, on the other hand, tend to use language to negotiate status in the group by demonstrating their own abilities and knowledge by challenging and resisting the challenges of others (Tannen, 1995).

These child play behaviors help form the language styles of adults, and continues to give the two genders different levels of power and recognition in society. Rossetti (1997) reports that the theme of using power to negotiate status by males and cooperation to establish rapport by females is consistently being played out throughout adulthood and repeated in the social and linguistic communicative styles between the two genders.

In western culture, the cultural norm and social standard is regulated in accordance to the values of men. This form of cultural maintenance has worked to empower the male gender while relegating the female gender to a secondary status. From this perspective, the different ways women and men are socialized in their childhood can serve to empower men while disempowering women in cross-sex interactions.

According to Tannen (1995), “communication isn’t as simple as saying what you mean. How you say what you mean is crucial, and differs from one person to the next, because using language is a learned behavior: how we talk and listen are deeply influenced by cultural expectations” (p.138). Women and men are raised in two distinct subcultures – two broad, different styles of speaking and establishing social status. Consequently, these habitual ways of communicating especially in the context of cross-sex interactions where the more aggressive, competitive male style is seen to dominate and suppress the more cooperative, negotiating female style—result in a power imbalance in favor of males. Differences expressed in the two gendered communication styles reflect the culture’s expectations. Thus, in accordance with the social standard the communication norm is regulated in conformity to the ideals of men.

Consequences of Communication Differences in Language: Research, Commercial Industry, and Business Organizations

The consequences of communication seem to fall heavily upon women. Poynton (1989) writes, “women seem to be the obvious losers in that their conversational goals and strategies are consistently devalued by males and in that interaction with males they regularly suffer the indignities of being talked over and at (even sometimes when talking about their own areas of expertise) and having their use of talk to explore issues, personalities, and decision making reinterpreted as requests for instant problem solving” (p. 29). This following section explores the consequences manifested from academic assumptions found in researchers’ conclusions, the public messages portrayed through commercial advertisement and in language biases evident in the business world.

Consequences are evident in literature on communication styles, reinforced commercially and in the business world. Literature reveals some researchers pass on such “knowledge” of female inferiority by communicating the male superiority stereotype— thus reinforcing the power imbalance, which exist between genders. This power imbalance has significantly played a role in research. The tendency for theorists conducting gender and language research is to construct men as dominating language and women as being powerless to express their experiences of the world (e.g. Crawford, 1995). Weatherall (1998) agrees language research differentially encodes information about people on the basis of gender in a way that is positive for men and negative for women.

An example of this misappropriation of the imbalance explanation is Crawford’s (1995) study, which analyzed discussions of date rape. The concept of different languages was used in discussions Crawford examined to account for the fact that men cannot understand that when a woman says “no” to sexual advances, she means “no.” From this perspective date rape is understandable and defensible because men do not understand that the way a woman says “no” actually means “no” and not “yes.” The problem lies with women’s language because it is the woman who has failed to make herself understood. As a result, it becomes evident how research reinforces social inequities and provides an effective excuse for ignoring what a woman says.

Theorists Tannen (1994,1995), Mahoney and Knupfer (1997) illustrate how supporting these power imbalances through language research hinders communication between the two genders. Mahoney and Knupfer (1997) write that past research on

women and language reveals that women experience linguistic discrimination in two ways: 1) in the way they are taught to use language and 2) in the way general language usage treats them. Illustrating the way women are taught to use language, Mahoney and Knupfer (1997) explain how women reflect their secondary role in the social order by adopting linguistic practices commonly associated with feminine mannerisms, such as using tag questions, qualifiers, and fillers to soften their messages, often making mild-sounding requests and apologizing for asking for things that are actual needs. Lakoff (1973; 1975 as cited in Weatherall, 1998) considered women's style negatively as being hesitant, ingratiating and weak. Her explanation for the gender differences was that women are socialized to hedge meaning in order to avoid offending men.

To illustrate the second point, language directed at women is traditionally identified through its association with men. Occupational titles indicated which jobs were for men and which were for women. "While much of this has changed today, our society retains a tendency to imply that maleness, after all, is the standard for normalcy, a female physician may still be referred to as a 'women doctor,' and while a female committee chair may be called the 'chair' or the 'chairperson,' a male in that role will more likely be called 'chairman'" (Mahoney & Knupfer, 1997, p.2). Thus, these linguistic discriminations categorize women as deviant and men as normal.

Commercial use of these linguistic discriminations is a consequence of researchers presenting biased knowledge to the public. Gender social leveraging (e.g. power imbalance) in language research has been used commercially in two ways to reinforce gender stereotypes and justify discrimination against women: self-help books

and assertiveness training. For example, Crawford (1995) argued that in different contexts (e.g., assertiveness training, gender miscommunication accounts for rape), cultural explanations of gendered language styles have been used to maintain structures of male supremacy. The general belief underlying the assertiveness training movement was that women were inept communicators (Weatherall, 1998). The outcomes of gender imbalances discriminate against women when language function is considered passive and problematic.

Research on gender and language has portrayed women's style of communication as unsuccessful; consequently, issues of power and identity are communicated to the public. The commercial message portrayed through the sale of self-help books and need for assertiveness training is that women's communication style needs to be improved. Women must change their style to meet the standards of the male style, which is more aggressive. The assumption lies in the idea that the male style is not only preferred, but also better in that an aggressive style of communication sends the correct message. The commercial industry (through its "need to improve" advertising) publicly reinforces the social and linguistic leveraging by selling the notion that the male style must be the more effective communication style in all circumstances.

Similar to gender and language research, the organizational setting also acts to reinforce power imbalances. Literature shows women are affected by the consequences of gendered communication and that power imbalances have manifested into the business environment. This has been explored through literature relevant to "the glass ceiling" and how communication is used to create inequities between employees. Tokunaga and

Graham (1996) define the term 'glass ceiling' as "a set of invisible barriers, real or perceived, that appear to stymie the career advancement opportunities of women and minorities" (p. 262). Organizational studies, such as Tokunaga and Graham (1996) and Rich (1998), have examined gender and race in relation to career progression.

Using company records to measure employee promotions and controlling for level of education, Tokunaga and Graham (1996) found female and nonwhite employees received fewer promotions than males or whites. Although many variables affecting the career progression of women and minorities were explained by job-related factors, (i.e. amount of career breaks resulting in low tenure and seniority, performance appraisal ratings, etc.), Tokunaga and Graham state that these factors are not free from the possible effects of bias or discrimination. Language biases such as intolerance to one's accent or exclusion from informal communication networks, were among the list of factors that may account for these job-related differences (Tokunaga & Graham, 1996). Revealing that language bias may play a role in job-related factors that were found significant in relation to career advancement. These findings illustrate the need to examine the possible impact of language bias on women and minorities career progression. As the prevalence of computer communications in organizations increase (Turtle, 1996), it becomes imperative to study ways in which power imbalance may be prevented through language use by women and minorities. Consequently, organizations can create agendas that promote opportunities of equal communication and career progression.

Similar to Tokunaga & Graham's finding that language bias may play a role in job-related factors significant to career advancement, Rich (1998) demonstrates how

linguistic codes are created and hinder the advancement of women and minorities in the organizational environment. He discusses how without mastering the communication clues of the workplace (created by a dominated white male environment) and achieving facility and skill in the use of the communication process, minorities and women cannot achieve what he calls “communication equity in organizations” (p. 316). Rich (1998) concludes that one of the mechanisms for regulating acculturation “is the use of a linguistic code” that allows the top management to send messages to some people and not to others; “communication is used to create inequities” (p. 316). Women and minority’s low status and poor performance in business were understood to be a consequence of their inability to talk correctly. These studies indicate how class, race and gender disparities are reproduced through communication and how power relations inhibit organizational mobility.

Many organizational training materials and diversity consultants have incorporated communication and interpretation themes to their agendas. This is significant in light of computer usage, since several findings (e.g. Bordia, 1997) seem to indicate that computer communication, when compared to face-to-face communication, is a more egalitarian medium with greater equality of participation. If this is indeed true, then the question arises as to whether 1) linguistic codes are successfully transferred into computer communication and 2) they continue to hinder the advancement of women and minorities. Future research is needed to aid women and minorities to recognize communication barriers that can hurt their career.

Before moving to a discussion of gender language goals and email communications, it is important to acknowledge that the literature demonstrates how gender both influences and is a product of socialization, communication and power. The cultural approach to women and men's language can be summarized in the concept that gender differences in speech styles develop as a result of early communication patterns. Therefore, gender specific cultures are thought to evolve with unique communication patterns. The literature demonstrating the concept that women's speech style is cooperative and men's speech style is competitive simply extends gender role stereotypes to linguistic behavior. Of greater concern is that not only are women's language differences illustrated as a deficit, but also the power imbalance portrayed through research exemplifies discrimination in the academic, commercial and organizational environments. This power imbalance has led to consequences that therefore diminishing the need to eliminate gender biases that create career advancement barriers and ignore women's communication styles.

Goal of "language use" by gender

In addition to the consequences of how stereotypes and discrimination effect woman and have become evident in gender and language research, several studies also illustrate how language purpose/use raise critical issues for researchers. Several studies have addressed the question of how genders differ between communication purposes/use (Straub, 1997; Tannen, 1995; Weatherall, 1998). Women feel their power is enhanced if they can help by giving information. Men resist seeking information, like travel directions, because it places them in an inferior situation. For example, women ask "Are

you with me so far?” with the intent on being understood (CWIC, 1992, p.7). Men are more concerned about being questioned and would take offense to such a query. On the other hand, if a man were to ask the same question, it is typically in a sarcastic manner in an attempt to exert superiority (CWIC, 1992). Straub (1997) found that similar differences are evident in problem solving communications where men tend to use discourse to solve problems while women use it to show empathy, solidarity, and mutual support. Such gender-based distinctions have been supported by many case studies (e.g. Tannen, 1994).

Research on oral discourse shows that gender differences are prevalent and cause many misunderstandings between the sexes (Tannen, 1995). Tannen explains that some men are sensitive to being told what to do by women. Women managers often tell people what to do without actually giving orders. Women managers may use indirect or buffered phrases, such as, “You know what I would do?” or “I wouldn’t do it that way.” However, she also states men use indirect requests in an understated way, i.e. “Let’s get a status report on where things are.” That is indirect because they say the word “let’s” when they mean, “do it”. Both genders use indirect requests, but it is communicated and received in different ways. For example, orders given in an indirect manner caused confusion between cross-sex interaction. Tannen, in a video version of her study ‘Talking from 9-5, Women and Men in Workplace: Language, Sex and Powers’ (1994) show examples of women’s buffered styles. It showed women giving orders to women, and there is no confusion. But confusion did exist when women gave orders to men in a

buffered way. Tannen claimed that men construe a woman's indirect way of managing him as giving him options when, in fact, she is not.

Furthermore, studies show that the two sexes have different views of language strategies that lead to much misunderstanding. For example, "the 'mhmm' a woman uses quite frequently means only 'I'm listening,' whereas the 'mhmm' a man uses, but much less frequently, tends to mean 'I'm agreeing'" (Rossetti, 1997, p 4). As well, women viewing "questions as a part of conversation maintenance and men primarily as requesting information" (Rossetti, 1997, p. 4).

Communication research shows these misunderstandings (i.e. indirect request) act to trivialize women and reduce the significance of women as a social category. The prevalence of gender bias in language makes sexism more covert and therefore a legitimate way of communicating discrimination (Mahoney & Knupfer, 1997). Research provides an important way of understanding the creation and maintenance of power hierarchies and barriers (i.e. the glass ceiling) in organizations. Further research is needed to understand the way gender conversation and use of language influences the experiences of women and men in today's social and organizational hierarchies. Furthermore, these issues (i.e. gender communication style biases, social and hierarchical status) need to be explored in an organizational setting.

New technologies (i.e. computer-mediated communication [CMC]) have introduced a new medium in which these interactions may be examined and analyzed to explore whether gendered difference are transferred in computer communication. Having described the gender communication styles and the implications they have on social

order, these next two sections move to a discussion of the literature specifically oriented to examining computer mediated communication (CMC) and gender communication styles in email discussion list.

CMC as a Research Tool

All sizes of organizations use computers for activities as diverse as “group problem solving and forecasting, consensus development, sharing ideas and coordination of group projects” (Bordia, 1997, p. 99). Claims that this new form of social interaction encourages wider participation, greater candor, and an emphasis on merit over status have lead to a renewed interest in gender communication and interaction research (Kollock & Smith, 1996).

Recently researchers have raised some critical questions about the dynamics of computer-mediated conversations (CMC) compared to face-to-face communications (FTF) (Bordia, 1997; Ma, 1996; Kollock and Smith, 1996). CMC refers to interactive computer messages, examples of which are electronic mail (email), email distribution list, interactive talk forums, computer conferencing, etc. (Ma, 1996). Relative literature has raised issues of CMC in light of the potential advantages for researchers and computer communication participants. Researchers have recognized the new possibilities that emerge in CMC, where cyberspace provides an important research site to explore fundamental questions of social order (Herring, 1996; Kollock and Smith, 1996).

In comparing FTF with CMC, in terms of relative advantages of conducting research, several critical issues have been noted. Email postings (specifically e-mail distribution list where participants send and post messages to all group subscribers

simultaneously) have the advantage that allow a researcher to observe patterns of communication without affecting those patterns. Although this is somewhat limited in that researchers cannot capture the private meanings people may intend or take from messages (Kollock and Smith, 1996). The implication of this statement is that email discussion lists create an environment where spontaneous gender communication is occurring and can be observed without disrupting such interactions. Given the new possibilities that emerge in CMC, cyberspace allows researchers to explore fundamental questions such as social order, gender language uses, etc. in a medium where realistic gender conversations occur naturally.

Along with advantages are also cautions. Kollock and Smith (1996) noted that, unlike other more controlled forms of research (e.g. experimental studies), alternative channels of communication could escape email distribution examination. For example, participants in a discussion list may email each other directly, avoiding the public arena of the group, or may telephone, write or meet each other without evidence of this appearing on the posted email list. Consequently, email discussion list research may, in fact, only represent a portion of the participants' CMC interaction. Nevertheless, email discussion lists enhance the ability to capture virtual conversations as they occur spontaneously and without contamination from the observer.

CMC as a Medium for Equal but Candid Communication

Due to the lack of nonverbal cues in CMC, several findings seem to indicate that CMC, compared to FTF, is a more egalitarian medium, with greater equality of participation, relatively less intense normative pressures (i.e. social pressure, groupthink,

etc.) but higher incidence of uninhibited behavior, known as “flaming” (Bordia, 1997; Kiesler et al., 1984; Ma, 1996). According to Kiesler et al. (1984), since some barriers common to FTF communication, such as race, physical appearance and language accent, are nonexistent in computer mediated interactions, a more egalitarian situation is created. The assumption is that in FTF communication nonverbal cues can elicit biases and taint communication but CMC relieves the sender/receiver from overcoming stereotypes through the absences of nonverbal information, thus allowing the participants to embrace communication as equals. However, due to the high incidence of uninhibited behavior in CMC this statement implies that communication via CMC may be judged by a different criterion than FTF. It may be the case that CMC is influenced not by race or accent but rather by a criterion that is not transferred such as a lack of social awareness or preoccupation with ones own communication goal.

As mentioned above, a potential disadvantage for members is that CMC users tend to be more uninhibited than they are in FTF situations. For example, Kiesler et al. (1984) discovered uninhibited verbal behavior occurred more often in computer mediated decision-making groups than FTF decision-making groups. Bordia (1996) concludes CMC induces a state of de-individualization, which leads to uninhibited behavior. This de-individualization is thought to result from a preoccupation with the receiving, composing and sending of messages that lead to a lack of awareness of the social context. However, Bordia (1997) reported a study conducted by Hiltz et al. (1998) using corporate managers as subjects, which showed that about half of the CMC groups had no incidence of uninhibited behavior. This study differed from other studies (e.g. Kiesler et al., 1984

and Ma, 1996) in that the subjects were not strangers and anticipated further interaction. Implications of these findings are that, clearly, CMC research needs to be conducted using subjects who know each other, are likely to continue communicating after the experiment, and are engaged in a realistic task, such as an organizational setting among coworkers. These conditions are necessary to explore aspects of uninhibited behavior and nonverbal cues as they actually occur within an organization.

CMC and Virtual Interaction

The absences of nonverbal cues (e.g. eye contact, voice tone) in CMC, as opposed to FTF, is a unique feature of CMC. It raises an interesting question as to how CMC users compensate to embellish meaning or social context cue in CMC. In spite of CMC limitations in the transmission of nonverbal cues, Walther (1995) argues CMC allows “relational development”(p.188). Relational development is defined as CMC users’ virtual interactions that indicate “warm personal relations or gradual adjustments in interpersonal relations over time” (p. 188). This study on relational communication in task-oriented group contexts indicates that the depersonalizing effects of the medium (CMC) are limited to initial interactions. Changes in relational communication will occur as a result of extended interaction (Walther, 1995).

Although nonverbal cues are inaccessible in CMC, alternative relational cues have been found to be available to its participants. Relational cues can be transmitted in the absence of nonverbal cues in two ways. First, email messages are capable of conveying relational meanings (Walther & Burgoon 1995, as reported in Ma, 1996). In other words, relational tones can be incorporated in email messages. For example, the

choice of topics, words, syntax, and punctuation marks can serve as relational cues. Second, relational messages can be transmitted through “electronic paralanguage” (Gumpert 1990:151, as reported in Ma, 1996). “Electronic paralanguage” is also referred to as “emoticons”, which is a hybrid name derived from the words “emotive icons” (Metz, 1992). There are four different forms of “emoticons”: those used to verbalize physical cues, such as “hehehe” (laughter); those used to describe physical actions, such as “*hug* and *kiss*”; those used for emphasis, such as “no, I *won’t* go”; and those used as a “shorthand” form for the description of a physical condition, such as “:-)” for a smiling face (Metz, 1992).

In light of these claims, it would be of interest to study relational development in CMC over extended interaction periods. If indeed CMC allows relational development after an extended interaction period, than cultural and social norms may become even more evident between virtual gender communications, thus, easier to interpret.

A review of CMC literature has revealed an interest of social interactions (i.e. cooperation, culture, and aggression) within the virtual society. Consequently, only a few field researchers challenged claims of increased uninhibited behavior in CMC (Bordia, 1997) recognizing most studies used student subjects. The generalizability of the results to other subject populations in other settings (e.g. managers in the work place) is problematic. Also worthwhile to note is that most studies used subjects who were strangers. Whereas, uninhibited behavior was prevalent in studies using unacquainted subjects, it was not evident at all in studies in which subjects were acquainted, shared a common goal and anticipated future interaction. Thus, research involving different

subject populations in varied settings need to be done. Furthermore, examinations of a virtual subject pool where previously acquainted members interact need to be explored.

Implications of such studies could reveal dynamics of how existing gender communication theories (i.e. cultural bias or gender stereotypes) are replicated through use of CMC among previously acquainted members. In other words, research is needed to explore whether bias and stereotypes exist within a CMC environment where members share a preexisting culture, social norm and hierarchy of power within a CMC environment and if so, how these conditions affect gender virtual conversations.

CMC and Gender

Measuring gender communication styles.

Having described critical issues related to CMC, this discussion first reports tools utilized to measure gender communication and secondly, explores research explicitly regarding CMC and gender communication styles. Although numerous studies have examined gender communication styles, only a few have explored whether these styles are evident in CMC, and more specifically in an email discussion list.

Poynton (1989) utilized language indicators to measure gender differences in language. Women are supposed generally to use more 'hedges' than do men; this is contributed in part of the stereotype of tentativeness associated with women's speech (Poynton, 1989, p. 71). *Modality/modulation*, commonly referred to as hedges, is one such category used to analyze the different communication patterns. Language indicators include *modals* (would, might, must, ought), *modal adverbs* (probably, possibly, certainly) and interpersonal metaphors (think, suppose, wonder). Modality is defined as a

grammatical form or category characteristically indicating predication of an action or state in some manner other than as a simple fact. *Interpersonal metaphors* (think, suppose, wonder) were used more often by women than men.

Poynton found considerable evidence that women use evaluative (attitudinal) adjectives more often than do men. This seems to be related to the pervasive stereotype of women functioning in terms of feeling or emotion rather than rationality or logic. Language indicators include *evaluative adjective* (e.g. wonderful, darling, and gorgeous) and *approximation adjectives* (about, around, perhaps, maybe, approximately).

Women are said to use *question and exclamation marks*, *intensifiers* (so, very, only, really) and *polite expressions* (please, thanks, sorry, apologize, appreciate) more often than men (Poynton, 1989, p.72). However, men are said to use more *statements* (Sure, Not sure, Pretty/Quite sure, Is, Are, I, We) than women (Poynton, 1989, p. 71).

In summary, Poynton found women used 9 out of the 10 language indicators more often; these included modals, modal adverb, interpersonal metaphors, evaluative adjectives, approximation adjectives, intensifiers, polite expressions, question and exclamation marks. Men were found to use statements more often than did women. Although relevant, this method lacks depth by decontextualizes word items. By doing so words are removed from their existing relationship with other words which together form a message. In isolation a word may lose its ability to transport the meaning of a message.

Unlike Poynton, Herring (1994) explored gender communication in terms of message function. In a keynote speech at the American Library Association annual convention in 1994, Herring proposed that women and men have different characteristic

on-line styles. “The male style is characterized by adversity – put downs, strong, often contentious assertions, lengthy and/or frequent postings, self-promotion, and sarcasm”; while the female style, in contrast, is characterized by “supportiveness and attenuation” with expressions of appreciation, thanking, and community-building; as well as apologizing, expressing doubt, asking questions, and contributing ideas in the form of suggestions (Herring, 1994, as cited in Rosette, 1997). Herring’s method entailed excerpting partial or whole phrases of a message and interpreting their function (function defined as explicit meaning/goal of the sender.) Herring reported an analyses of functional markers demonstrated that men used a more aggressive style on-line and women used a supportive and nurturing on-line style.

Research regarding CMC and gender on-line styles.

Few studies have been conducted on CMC and gender communication. However, a review of the research conducted indicates that language indicators and functional markers have been incorporated in varying approaches to measure gender communication differences. Applying these methods, researchers (Herring, 1996; Rossetti, 1997) found gender communication differences exist in CMC and continue to mirror culture expectations.

A basic assumption reported in CMC research is that male users are concerned primarily with the exchange of information, while female users send email primarily to promote and maintain interpersonal relationships. This stereotype is consistent with Tannen’s (1991) claim that men prefer to use language in the “report” function and

women in the “rapport” function in FTF communication, a claim she explicitly extends to CMC (Tannen 1994).

According to Herring (1996) the stereotype takes on new significance in the context of the current “Information Age”. It is typically evoked to represent women’s use of computer networks as marked or deviant relative to the “normal” (male) use of computer networks as a tool for information exchange (p. 81). Thus, a high school computer lab director was quoted in Newsweek (May, 1994) as stating that girls “see [sending email] as high-tech note-passing” (p. 55). Another example is Straub’s (1997) claim that women use email for more interactive exchanges and context building exchanges than men because of feminine discourse tendencies to use communication for rapport and cooperative behavior (context), while men’s tendency is to focus on content (p. 392). However, little empirical basis for the stereotype of the informative male and the interactive female computer user has been established.

Herring (1996) reported, “both women and men participate in discussions on electronic mailing lists to exchange opinion, beliefs, understanding, and judgments in social interaction with other human beings, with the pure exchange of information taking second place” (p 104). Measuring function indicators as defined earlier, significant on-line styles were found in electronic messages indicating that men and women oriented their messages differently. Messages posted by women contained more interactional features than did men. Contrary to the non-informative female stereotype, female messages were found to be more informative than male messages. In contrast male messages contained expressions of critical views, which could be misinterpreted as fact

rather than opinion. Interestingly, Herring found members of the minority gender on each list shifted their style in the direction of the majority gender norms.

These results are significant in that rather than showing women were less interested in the electronic exchange of information than men, or that men did not use computer networks for social interaction: they showed women and men negotiated information exchange and social interaction in gendered ways. Consequently supporting her 1994 claim reported earlier, Herring (1996) found significant gender differences exist; in that women's messages tended to be supportive in orientation, while men's messages tended to be aggressive in orientation.

How do these differences compare to the stereotypes of the interactive female and the informative male? According to the literature presented, women create harmonious on-line interaction. This characterization is compatible with the claim that women value interpersonal relations and seek to develop them on-line. At the same time, the stereotype is misleading to the extent that 'interactively' is taken to exclude 'informatively'. This suggests that women do participate in an exchange of information on the Internet in addition to maintaining a supportive orientation. In regards to the informative male stereotype, men are more likely than women to express their views as assertions of "fact", e.g., through the use of strengtheners such as "obviously" and "of course", and the avoidance of hedges such as "perhaps" and "it seems to me" (Herring 1996). As a consequence, male users may appear to be exchanging information when in reality they are exchanging opinions and evaluations. According to Herring (1996) "...information of a different sort is involved in oppositional exchanges; certainly new

understandings can be forged through heated debate” (p.104). In other words, the stereotype beholds the assumption that language that appears to be fact must be an exchange of information; however, the information presented may instead be an expression of a highly subjective view. This indicates that future researchers need to ensure that what is considered fact is truly fact and messages are interpreted in a systematic manner as well as prevent the misunderstanding that interactively is not measured to exclude informatively.

Unlike previous research, Rossetti (1997) used a combination of language indicators (i.e. statements, questions, modality, etc.), as defined by Poynton (1989, p. 69-74), and functional markers, presented by Herring (1994), representing male and female on-line styles. Rossetti found distinguishable gender communication styles between the email senders. In regards to language indicators, Rossetti, similar to Poynton, reported women used more modal adverbs, polite expressions and evaluative adjectives than did men. Also in accordance with Poynton, Rossetti found men used statements more often than did women. Contrary to previous findings, men were found to use modals, approximations, and question marks more often than did women. Both genders were similar in their usage of interpersonal metaphors, intensifiers, and exclamation marks. These findings challenge the claims put forward by Poynton. Of the ten language indicators analyzed, only three were found to support Poynton’s claims, while seven were contradictory.

The functional markers found indicated that males were more prone to write in an aggressive competitive style, while women tended to be far more supportive in their

writing. Rossetti (1997) found 'aggressive' expressions (e.g. "Get a life???" or "Go back to the cranial explorations of the upper reaches of your bowels, it suits you.") written by men outnumbered women's by a 12:5 margin (p. 13). On the other hand, women expressed supportive statements (e.g. "I agree with you." Or "Your replies were most interesting and helpful.") three times more (18:6) than men. Men were found to be more interested in presenting their personal point of view in order to present an authoritative contribution (e.g. "I'm in charge of a...") to the discussion, while women were more interested in the contribution itself (i.e. Here's my advice...). Rossetti (1997) found these different approaches taken toward electronic technology are congruent with the socialization and integration of males and females into society. Rossetti concluded, "the male/female language style dichotomy has been transported into CMC regardless of the lack of physical contact" (p.8).

Although Rossetti's findings are successful in combining lexical and functional markers to reveal significant CMC gender differences, it is limited in that the subjects used were chosen from a variety of discussion lists. This is a concern due to the application of the results to other subject pools (i.e. business application --subjects may who are pre-aquainted and share a common goal.) As stated earlier in the CMC as a Medium for Equal but Candid Communication section, previous studies reported a difference in the occurrence of uninhibited behavior (i.e. flaming). Whereas, uninhibited behavior occurred frequently among subject groups who are strangers, communicating in a virtual forum with no anticipation of future communication; no incidences of

uninhibited behavior occurred among acquainted subject groups, who sharing a common goal/purpose and anticipate future communication.

In regard to CMC and gender, researchers agree on-line styles are evident, however, report stereotypes continue to taint the extent of how these differences are interpreted. Whereas men are seen to have a more aggressive and informative but lacks a supportive on-line style, women are said to be more supportive and relationship oriented but lacks an informative on-line style. More research is needed to determine to what extent these two styles differ in purpose, especially in relation to information exchange in emails. With the limited amount of research available and the ever increasing popularity of CMC in everyday business and personal computer use, more empirical research is needed utilizing a combination of lexical and functional methods of measuring gender communication in CMC. Furthermore, it is important to extend CMC and gender research to industries beyond the academic realm, but also to industries where computers increase daily as a vital means of communication, such as business, technology, and commercial industries. It is in these situations that career progression is mostly affected by a person's ability to communicate effectively and should not be contingent on gender.

Summary

Culture, language and society interact to give members of different genders varying levels of power and recognition in society. Previous researchers on gender language have demonstrated how society, academic entities and business entities embrace gender differences. The academic and commercial industry portrayed a theme of "need to improve" with regard to women's communication. The significance of such a

conclusion reinforced the gender stereotype that illustrates women are inept communicators compared to men and therefore remain of secondary social status in society.

Although many similarities exist between business research and the academic and commercial industry research, studies conducted within an organizational setting slightly differed by creating for women a theme of “need to adapt” to a male style. Whereas, literature revealed that a woman’s career mobility would greatly benefit from adapting to a male communication style, a man’s benefit from adapting to a female communication style was not explored. This finding is significant in illustrating to women that adaptation to the male style directly influences a woman’s ability to be competitive and advance in an organizational setting. This research challenged both genders to sharpen their observational skills and focus on recognizing language barriers that hinder career advancement. Companies showed support for the “need to adapt” theme as evident in the agenda topics and training materials available to help women and minorities with this adaptation.

Overall gender communication research demonstrated a clear indication that two different styles exist and the male style is portrayed as the correct style -- continuing the social leveraging between genders. This power imbalance has lead to consequences that diminish the need to eliminate gender biases in communication mediums that create career advancement barriers and ignore women’s communication styles.

In reviewing language ‘use’ research, similarities were found between gender language ‘use’ however differed in ‘delivery styles.’ Language ‘use’ was similar in

intent (i.e. the use of indirect request, etc.) but caused confusion in cross-gender conversation. These findings revealed both genders use language for similar purposes but differ in the delivery and interpretation.

Dealing with how culture, language and society influences are being transferred into computer-mediated communication is necessary to determine how gender communication is transpiring via the internet. Research suggests an electronic mail discussion group would be an efficient forum to measure such influences. Yet little research has been done to examine gender influences in email discussion groups. Existing research on gender communication in email interaction shows it is evident that this medium creates an ideal forum to measure differences without observer interference and captures CMC among members as they occur naturally. Using language indicators and functional markers representing male and female on-line styles researchers were successful in distinguishing between the genders of email senders (Herring, 1996; Rossetti, 1997). Contrary to the idea that computer forums are gender-neutral arenas, this on-line experience does contain gendered forms of communication styles. These findings are relevant in the exploration of how gender communication differences may continue to strengthen the social leveraging and hinder career advancement for participants in virtual communities and virtual conversations between members of an organizational.

In light of limitations, previous studies containing factors that relate to FTF and CMC typically investigate communication between strangers and mostly student subjects (Ma, 1996; Kiesler et al. 1984; Herring, 1996; Rossetti, 1997). This causes concern in the generalizability of these findings to other subject populations in other settings (e.g.

managers in the work place). It was noted that uninhibited behavior occurred more often among strangers than coworkers in a study conducted by Bordia, 1997. Consequently, in an organizational setting it is more likely that virtual communication will occur among coworkers with regards to general or problem-solving communication rather than among strangers (e.g. public oriented communication). Therefore, illustrating the need to increase generalizability in studies by conducting research among acquaintances.

Research using subjects who are unacquainted, although important in its own right, may well be limited to academic research and excluded from business research because it fails to involve subjects who are previously acquainted and more likely to interact in a business setting. This approach to understanding previously acquainted subscriber's CMC, who maintain personal/business relational exchanges in addition to the virtual encounters, provide a more complete, multidimensional account of human behavior, therefore, more applicable to organizational interpretation and utilization. To elevate the limitations caused by communications among strangers, the current study will focus on gender communication among previously acquainted subjects in an organizational setting.

In reviewing existing research on gender and CMC, it is evident that a fundamental assumption exists in many of the analyses. The assumption that cultural expectations affected on-line communication styles is best illustrated by Wright and King (1990) when stating, "Linguistic choices for meaning are constrained by the number and types of words, by the patterns available in the language, and by the knowledge and practices of the culture form which we speak or write" (p. 212). Consequently, the

linguistic choices made result in a phenomenon where language helps construct the social order. With communication becoming more computerized, it is important to explore how gender differences are embraced by a virtual society. As Poynton (1985) suggested, “Language is the primary means by which we create the categories that subsequently come to organize our lives for us” (p. 4). Such categories may position us as female or male. These basic assumptions have warranted the examination of virtual stereotypes and cultural transference in CMC.

It is evident that further research is needed to explore whether gendered lines of communication exist in CMC and if so, how these styles may differ in the user’s purpose. Such understanding aids in the degree transferred biases are accepted into CMC. Recognizing differences may lead to further action such as adaptation to a preferred style in order to prevent social leveraging. Or, more appropriately, CMC users may choose to embrace the differences and reap the benefits of incorporating a variety of communication styles into CMC.

Purpose and Hypotheses

The focus of this research project is to explore communication styles evident in an electronic mail discussion group. Email mail discussion groups are groups of people who communicate with one another through email, offering opinions, advice, and various information items with regards to the topic at hand; the World Wide Web (WWW) term used for email discussion group participants is discussion ‘listeners.’ Some email discussion group members for the most part never physically meet, rather their relationship exist in a “virtual reality” on the WWW. However, other members interact

in email discussion lists in addition to FTF or other forms of communication. Subjects in the current study are acquaintances and engage in several forms of communication.

In light of the literature findings, it is hypothesized that language indicators (e.g. Poynton, 1989) and functional markers (i.e. Herring, 1994, 1996; Rossetti, 1997) will successfully discriminate among virtual groups classified as either male or female. This study examines an organization's email discussion list for the production and reproduction of the values and expectations associated with cultural images of femininity and masculinity. It involves the analysis of messages not only at the level of content words (i.e. commands, statements, questions, etc.) but also at the function level (i.e. aggressive or supportive).

Hypothesis one: In accordance with past research, it is predicted that language indicators will successfully discriminate difference between genders in CMC, more specifically in an email discussion list. By analyzing language indicators, it is predicted patterns will emerge illustrating, similar to Poynton, women will use more modals, modal adverbs, interpersonal metaphors, polite expressions, evaluative adjectives, intensifiers, question and exclamation marks. Also in accordance with Poynton, it is predicted men will use more statements; however contrary to Poynton yet similar to Rossetti, it is predicted men will use more approximations than will women.

With the exception of the language indicator "approximation" this hypothesis favors Poynton's theoretical framework (see Appendix A). It is the belief that Poynton more accurately represents women's language-indicator usage. However based on more current studies (Herring, 1996; Rossetti, 1997), that men used exchanges of opinion and

evaluations more often than women, the believe is that men are more likely than women to express their views on line as assertions of fact using statements and approximations. Therefore, the hypothesis regarding the language indicator “approximation” favors Rossetti’s 1997 finding.

Hypothesis two: As proposed by Herring, it is hypothesized that men’s messages will be more aggressive in style than women’s messages; however, women’s messages will be more supportive than will men’s.

Hypothesis three: Although not based on previous CMC research, it is hypothesized that email-posting purposes will differ between genders. It is hypothesized that female senders will post messages for the underlying purpose of networking and FYIs (For Your Information) more than male senders will and male senders will post messages for the purpose of asserting authority and post more humorous emails than will female senders.

Methods

Organization

In order to address the research questions, email messages from a local Silicon Valley “charter” elementary school email discussion group were collected and analyzed. Members on the “charter list” post a message to the list by sending an email message to the list address; the message gets delivered to everyone on this list. Likewise, when anyone else posts a message to the list, it will be delivered to all the members via email. I am currently a parent in the school community and a member of the “charter lists” email discussion groups. However, I have not posted any messages to the list this year. This

level of involvement is considered a form of observing termed ‘lurker’ in cyber-language. Lurking is defined as reading ongoing discussions without contributing to them (Kollock and Smith, 1996).

This organization is a public facility that incorporates an alternative learning environment supported by a project-based curriculum called the “charter” learning approach. This educational style provides hands-on, projected-based curriculum that is developed internally by a partnership between staff and parents. It also includes a strong commitment to family involvement and community partnership. Communication and participation in this partnership play vital roles in the success of this organization. In addition to more formal means of communication, the “charter list”, which is similar to a bulletin board, is used as a form of community awareness and a place to present concerns in an open forum.

Subjects

Samples of email messages were downloaded between October 26, 1999 and November 26, 1999 from the charter communications email list. Out of 68 messages collected, 28 (41%) were from male senders and 40 (59%) were from female participants. Considering the nature of the school environment and the narrowing gender gap assumption of computer-mediated communication, the higher online female percentage is understandable despite the inconsistency with other studies showing a higher percentage of male online users (Rossetti, 1997). However, Pittaway (1997) found that in 1996 estimates show 40 to 49 percent of online users were female, up from just 10 percent in 1993. Rossetti (1997) also found among WWW discussion email groups that the users

were almost equally split between genders –56% male and 44% female (p. 7). Based on these reports, it is an assumption that the gender gap in CMC is greatly narrowing.

Procedures

The data collected for this research were evaluated in three ways: the number of times a language indicator was found; the presence of aggressive or supportive statements, and the post purpose of the sender (e.g. contribution of either a networking or authoritative function). First the content was analyzed, using Poynton's (1989: 69-70) language indicators representing differences in male and female styles (i.e. modals, modal adverbs, interpersonal metaphors, polite expressions, statements, evaluative adjectives, approximation, intensifiers, question and exclamation marks). Each score was calculated by counting the number of times the person chose to use the language indicators in a message.

Next, the function of the data was observed to identify aggressive or supportive expression (Herring, 1994, p. 3-4), (Herring, 1994, p. 4) and posting purpose. Each subject was given a score based on number of aggressive (Appendix B) or supportive phrases (Appendix C) found in the message. Aggressive criteria are considered phrases that contain an underlining expression of cynicism, maliciousness, personal attack or overall negative tone. For example, a phrase containing all capital letters such as, "PLEASE DO LOOK INTO IT!" is considered an aggressive statement. Supportive criteria are considered phrases that contain praise, encouragement, accommodating suggestions, or overall positive tone. For example, the phrase "I know it is confusing at first but hang in there" is categorized as a supportive phrase. Approximately 30

ambiguous messages were tested for inter-rater agreement reliability of instance that the tone of a phrase was unclear . In order to do so a second reader judged specific statements; both readers agreed upon all statements.

In regard to the sender's posting purpose, a content analysis was conducted to evaluate the sender's contribution made to the discussion list. Each subject was given a score based on whether the message contributed in a way that was networking, FYI, asserting authority or humorous. Although no previous research was found regarding email posting purposes, these categories were selected based on observations made during the data collection period. Networking is defined as soliciting input for further discussion, decision-making, interests or invitations. FYI is an item of information potentially valuable to the receiver. Asserting authority is defined as statements containing facts and/or opinions and delivered in an expert tone. Humorous emails refer to posting jokes or quotes of the day.

Analyzing messages for both word content (e.g. modals, statements) and language function (e.g. aggression) provides a more comprehensive approach to understanding the sender's communication style. Whereas word content provides insight to a sender's use of hedges or statements, the language function reveals in what manner these words were used (i.e. indirectly using modals versus directly using statements or inquisitively using questions versus response provoking using rhetorical questions.) By comparing the language indicators and functions of messages posted by women and men in electronic communications, it is possible to evaluate the claim that these messages operate in gendered different ways.

Results

The total number of times a particular word appeared in the two groups of messages and the percentage use of each group are shown in Appendix D. Pearson correlation coefficients of the language indicators were examined to determine if any overlap and redundancy existed among the variables (Table 1). There were nine inter-relationships found among the language indicators, suggesting that these codes may be measuring some common attributes related to communication patterns. Two notable significant relationships are those between statements and approximations ($r = .60$) and statements and intensifiers ($r = .53$). The correlation indicates subjects who used statements in their messages also used approximations and intensifiers. This relationship is important in regard to the interpretation of the language indicator usage. This combination could lead to confusion of whether the phrase is a statement of fact or approximation. This supports previous research findings that expressions containing statements, approximations, and intensifiers are often misinterpreted as exchanges of factual information when in reality they are exchanges of opinion or evaluation (Herring, 1996).

To test the first hypothesis, that 1) similar to Poynton, women would use more modals, modal adverbs, interpersonal metaphors, polite expressions, evaluative adjectives, intensifiers, question and exclamation marks than would men; 2) men would use more statements than woman; and 3) contrary to Poynton yet similar to Rossetti, men would use more approximations than women, both groups of messages were analyzed using t-tests. These results are presented in Table 2 and discussed below.

Opposite of the hypothesis, modals were significantly used more by men ($M = .22$, $s.d. = .21$) than women ($M = .09$, $s.d. = .11$), ($t = 3.16$, $p < .02$). Surprisingly, modal adverbs and interpersonal metaphors were not significantly used more by either of the genders ($t = 1.19$, n.s., $t = .09$, n.s., respectively). It was supported that women ($M = .25$, $s.d. = .19$) significantly used more polite expressions than did men ($M = .13$, $s.d. = .18$), ($t = -2.59$, $p < .01$); but not supported were evaluative adjectives ($t = -1.25$, n.s.). The claim that intensifiers would be used more by women than men was not statistically supported ($t = 1.08$, n.s.). However as hypothesized, question marks were significantly used more by women ($M = .17$, $s.d. = .63$) than men ($M = .25$, $s.d. = .44$), ($t = -2.34$, $p < .02$), but contrary to the hypothesized, exclamation marks were found to be non-significant ($t = -.41$, n.s.). In regard to statements, as hypothesized, men ($M = .92$, $s.d. = .81$) used them significantly more than did women ($M = .19$, $s.d. = .55$), ($t = 2.42$, $p < .01$). Also hypothesized and supporting Rossetti's findings, men ($M = .11$, $s.d. = .19$) used more approximations than women ($M = .09$, $s.d. = .02$), ($t = 2.82$, $p < .01$). Overall, four out of the ten language indicators were correctly hypothesized according to gender usage (polite expression, statements, approximation, and question marks).

In order to test the second hypothesis, that men's messages would portray a more aggressive style than women and women's messages would portray a more supportive style than men, the second analyses involved identifying terminology from both groups that appeared to have an obvious or underlying expression of aggressiveness or supportiveness. A two-factor mixed within-subjects analysis of variance (ANOVA) was conducted with gender and style (aggressive or supportive) as the independent variables

(Table 3). The overall analysis revealed a significant main effect for gender, $F(1,66) = 4.01, p < .05$. An examination of the means indicate that differences are disbursed between genders with males displaying a total of both styles ($M = 1.23$) more frequently than did women ($M = .80$). Additionally, the main effect of style was statistically nonsignificant, $F(1,66) = 1.10, n.s.$ This result revealed that overall the two styles were distributed equally among genders. However, a significant gender and style interaction was found, $F(1,66) = 11.50, p < .01, R^2 = .08$.

In order to determine the source and nature of the significant gender and style interaction analyses were conducted to examine the simple effect of gender at each level of style. The simple effect of gender for the aggression style was statistically significant, $F(1,66) = 11.25, p < .01$; as hypothesized, men used a more aggressive communication style ($M = 1.54$) than did women ($M = .23$). Contrary to the hypothesis, the simple effect of gender for supportiveness was nonsignificant, $F(1,66) = 2.67, n.s.$, revealing that women ($M = 1.37$) did not significantly use a more supportive communication style than men ($M = .93$).

Testing the third hypothesis, that female senders will post messages for the underlying purpose of networking and FYIs (For Your Information) more than male senders will and male senders will post messages for the purpose of asserting authority and post more humorous emails than will women, consisted of examining email messages for posting purposes. Chi-square tests were conducted with gender and posting purpose (networking, FYI, asserting authority, humor). The overall analysis revealed nonsignificant findings for all four posting purposes and gender; the result

demonstrated $X^2(3, N = 68) = 2.02$, n.s. The comparison of posting purpose by gender is illustrated in Table 4. These findings indicate that the men and women disbursed themselves equally across all four purposes. Additionally, men and women were not found to differ in posting purposes in this study.

Discussion

The purpose of this study was to determine whether language usage and style would differ between genders in an organization's email discussion list. This section will summarize the findings of this study before discussing its implications, strengths and limitations.

The first hypothesis, that language indicators would successfully identify different linguistic gender patterns, was partially supported. Out of the ten indicators five were found to statistically differ between genders. Men used more modals, statements and approximations than did women, who in turn used more polite expressions and question marks. Both genders used interpersonal modals, evaluative adjectives, intensifiers and exclamations nearly the same amount of times in their email discussions.

The results of this examination challenge the claims put forward by Poynton (1989, p. 69-74). Appendix E presents the current hypotheses and findings in addition to a comparison of Poynton's (1989) and Rossetti's (1997) findings previously reported in this paper. Of the ten categories analyzed, only three (polite expressions, statements and question marks) were found to support Poynton's claims, while seven were contradictory. In regard to Rossetti's findings, six (modals, interpersonal metaphors, polite expressions, approximations, intensifiers, and exclamation marks) categories were found to support

Rossetti's claims, while four were contradictory. The results of this study assert Rossetti's 1997 theoretical framework is a more accurate reflection of today's gender language indicator usage than Poynton's 1989 findings.

Contrary to Poynton's findings yet similar to Rossetti's, the current study found men used modals more often than did women. This result may be explained by the large presence of women participants on the email discussion list and the importance placed on networking in today's businesses. The women's presence on-line could have impressed a more indirect communication style upon the men. This is consistent with Herring's (1996) study that found members of the minority gender on each list shifted their style in the direction of the majority gender norms. Another explanation of the increased use of men's modals is that participants are also organizational members who will most likely continue communicating on and off line; therefore, men in this email discussion list adapted to an indirect communication style. For example, it was found that men demonstrated modal usage when requesting information. One male sender wrote, "I was wondering, *could* the GC [Government Council] present their goals to the community?" The use of the word *could* in this statement frames this request as an indirect appeal. Overall, this study found that rather than requesting information in a more direct (i.e. The GC needs to present their goals to the Community.) men used modality to soften their requests.

With regard to men's approximation key word usage, the current study supports Rossetti's claim that men use more approximations than do women. These findings resemble more current communication research that men state information as fact when it

is more so an exchange of opinion and evaluation. In this study, men chose to use statements like “**I am sure**” and approximations such as “it is **about** 4 feet wide” to express opinions or facts. The above example could easily be misinterpreted as fact when it is in deed an opinion. Cultural expectations, such as men are more informative than are women, foster these misinterpretations resulting in the misreading of approximations as facts. However, as seen in more current studies, a careful examination of fact versus non-fact has revealed an accurate account of approximation usage between genders.

In accordance with previous research women used more polite expressions than did men. However contrary to Rossetti, the current study supports Poynton’s claim that women used more question marks than did men. These findings closely resemble the cultural expectations found in previous communication research that women use communication to build relationships and foster continued participation by eliciting responses. Evident in this study, women raised questions that required further discussion, therefore, inviting participants to post emails with regard to specific topics.

Contrary to Poynton, the current study supports Rossetti’s claim that genders used interpersonal metaphors (i.e. think), intensifiers (i.e. so, very) and exclamation marks nearly the same amount of times. Both genders were found to use these indicators to express more emphasize on contributing ideas and praises to statements. For example, one participant wrote, “It was *so* wonderful of you to present at last night’s meeting.” The use of the intensifier “so” emphasizes wonderful. These findings are important to

recognize that both genders are contributing to an on line style which illustrates a tone in favor of emphasizing ideas and praises.

Surprisingly, contrary to both Poynton and Rossetti, the current study found modal adverbs (i.e. certainly) and evaluative adjectives (i.e. wonderful, great) were used by both genders. This finding is consistent with other language indicator (i.e. modal) usage found in this study in which men shifted their style in the direction of the majority gender norms. As well as, the possibility that men chose a more supportive communication style by incorporating language indicators that present a more positive tone.

In summary of the first hypothesis's findings, Poynton's key terms utilized to examine CMC in an email discussion list were successful at identifying linguistic patterns between genders; however, the terms genders' preferred to use in this study are more similar to the results reported by Rossetti. This may be explained by the changes that have occurred since 1989. For example men were reported to use few modals in 1989 but today were found to use more modals than women. Modal usage in this study found that men incorporated an indirect form of requesting information. This may be due to the large presence of women on line or the importance placed on networking relationships in today's business world.

The second hypothesis, that men's messages will be more aggressive in style than women's messages and women's messages will be more supportive than men's, was partially supported in that men significantly used more aggressive phrases than did women; however, women did not significantly use more supportive expressions than did

men. In accordance with Herring (1994, 1996) and Rossetti (1997), men clearly used more aggressive statements; however, contrary to previous research men also used supportive statements nearly the same number of times as women. These findings indicate that although men's on-line style was more aggressive than women's style, surprisingly, both genders portrayed a supportive on-line style.

Messages written by men illustrated function levels of both aggressive and supportive styles. Men used tactics such as bold print and all capital letters (commonly considered yelling) to stress aggressiveness statements in their email correspondence considerably more than did women. However, consist with the results of hypothesis one that men have incorporated a new use of language indicators (i.e. uses of modals to frame statements and requests as indirect phrases), these findings also illustrate that men are incorporating a new supportive style to their messages. Men used supportive phrases in addition to aggressive phrases in their messages. This is important in that although men have not decreased their use of aggressive phrases they have increased their use of supportive phrases. This may be due to the presence of women on line in that men are adapting to the majority style. Another explanation for the change in men's style could be that men might be recognizing the value of maintaining a supportive relationship on line.

On the other side of the dichotomy, women did not significantly use more expressions of support than did men. Messages from both genders displayed a supportive and relationship-oriented tone. For example, "...If anyone can't be there, I can make arrangements to meet them...and fill anyone in on what they missed." This

and other similar samples go beyond just offering oral support they also offer encouragement, extra help, and compliments. This is significant in that messages by both genders were found to contain an underlying theme of supportiveness that elicited cooperation and an overall positive tone.

It is of interest to note that unlike some previous studies (e.g. Kiesler et al., 1984) that found a high occurrence of flaming among subjects who are strangers, this study supports the claim that uninhibited behavior decreases among coworkers who share a common goal (Hiltz et al., 1994, as reported in Bordia, 1997). Although men were found to have a more aggressive on-line style than did women, there were no occurrences of personal attacks or inappropriate language found (also referred to as flaming) in this email discussion list. These results are not surprising in that the data collected for this study consisted of email messages from pre-acquainted members who are part of an organization. Therefore, unlike virtual members who may never physically meet, these members communicate on and off-line and will mostly interact in a virtual as well as a physical environment. Consequently an evaluation of what is defined as an aggressive style versus inappropriate behavior is needed to ensure that CMC research does not foster gender stereotypes. For example, it is important that a potential email list subscriber does not base decisions about CMC on an assumption that aggressive on-line behavior means personally threatening (e.g. flaming) when in some instances, such as among acquaintances, it may apply to mean more highly opinionated, demanding or emotional responses (e.g. yelling).

Hypothesis three, that female senders would post messages for the underlying purpose of networking and FYIs more than male senders would and male senders would post messages for the purpose of asserting authority and post more humorous emails than would female senders, was not supported. Both genders were found to post emails pertaining to networking, FYIs, asserting authority, and humor (i.e. jokes) nearly the same amount of times. This hypothesis may have been unsuccessful in determining difference due to a small sample size. On the other hand, it may be the case that cultural expectations and stereotypes are not being carried out in CMC. These current findings illustrated that messages were posted for the similar purposes regardless of gender. Further research is needed to determine whether these results would be duplicated in a larger sample.

When combined, the results of these analyses present several interesting conclusions. First of all, that gender differences and similarities were evident in language usage and style in email messages posted to this electronic discussion group. Secondly, results in this study indicate previous studies may be outdated. Current research is needed to measure the changes occurring in the uses and styles of gender communication. Whereas men's language indicator usage and style have changed, women's remain consist with previous studies. Men's style continued to be more assertive than are women's style, however, men also displayed a larger variety of language indicator use (i.e. modals and approximations) and incorporated a more supportive style than previously reported. Women, on the other hand, maintained their use of language indicators and supportive style as previously reported.

Finally, the results demonstrated how styles of communication are influenced by two factors: 1) the presence of women online and 2) the changing trend of success in business from not just an emphasis on “need to know” (information-knowledge base) but also an emphasis on “who you know” (a networking-knowledge base). In other words, men are utilizing indirect methods in their communication style and focusing on networking relationships more than they had in the past.

Implications

Two major implications emerged from this study. The first refers to the comparison between previous studies and more current studies and the second is regarding the social domain of gender communication.

An evaluation of previous and current research was compared to the findings of this study. Challenging previous studies, the results indicate that gender communication styles diverged between past and current research. Acting as a tiebreaker this study revealed current research contained a more accurate theoretical framework regarding gender communication styles. As a result, it is clear that there is a need to revisit gender language theory to accurately define and measure present communication styles.

Furthermore, research is needed to explore what influences are shaping these changes. Current data revealed several potential factors: 1) social factors may impress the majority communication style to minority members of an email discussion list 2) greater business emphasis on networking in organizations and 3) technological influences which permit more candid and equal participation opportunities for either gender.

The social implications of this study's findings are in relation the consequences of communication differences discussed in previous academic, commercial and organizational research. These consequences fell heavily upon women as seen evident in studies regarding the "glass ceiling" or the "self-help" advertisement era. Whereas the male style was considered the correct communication style, the female style was marked as deviant. The findings of the current study revealed that gendered styles of communication are changing. Whereas, men, in addition to an aggressive style, incorporated an indirect and supportive style of communication, women retained a supportive style. Acknowledging such trends reveal social implications that may effect how women's communication is accepted and rewarded in today's academic, commercial and business world.

Recognizing the differences and similarities in communication styles is the first step to avoid making incorrect assumptions about people. Jane Sanders, an author and professional speaker who was the featured guest at the Women Business Owners Conference (1998), proclaimed that women can deter these assumptions by being proactive. According to Sanders, women can help their cause by avoiding patterns of language that diminish their ideas with phrases such as, "It's just my opinion," that make men assume they're wishy-washy or can't make decisions" (cited in King, 1998, p.154).

Society can benefit from research that addresses specific gender assumptions and their affects on virtual communities. By doing so, email users can strengthen their positions by eliminating disempowering terminology that leads to these assumptions. This enhances social and business correspondence by allowing information to be received

regardless of gender. Thus diminishing stereotypes that lead to the misinterpretation that women are inept communicators or situations that foster the “glass ceiling” advancement limit.

Nevertheless, research needs and has begun to rethink how gender itself has been conceptualized in the past with femininity and masculinity as binary opposites rather than as “mutually dependent constructs in a dialectical relationship” (Meinhof & Johnson, 1997, p. 2; as cited in Jones, 1999). Jones reported recent researchers are looking at how society uses the same set of “conversational devices,” sometimes differently and sometimes similarly (p. 149). The findings of this research have provided clear examples of how gender communication is changing. The subjects in this study clearly shared some language similarities while still maintaining their conventional differences as well. Overall, gender research at the end of this decade needs to offer new ideas to be explored within a variety of communication mediums.

Strength and Limitations

A major strength of this study was the comparison between past and current research. As a result, many implications of gender communication changes, present day trends and potential future research were revealed.

Another strength of this study involved the setting and measure of gender communication. The email discussion list in an organizational setting and combination of lexical and functional methods utilized proved to be strengths in this study. These features provided an accurate account of gender communication as it occurs through the use of technology in an organizational setting. Members used the email discussion list as

an extension of the organization's communication process, therefore, direct examples of decision making, information exchanges, networking, etc. between genders were directly observed with out interference from the study. This study has extended the exploration of CMC and gender research beyond the academic realm by conducting research within an organization that incorporates the use of CMC as a vital mean of community communication.

Another beneficial factor of this study is the lexical and functional method used to examine gender communication. Whereas the lexical analysis permitted the discovery of word patterns, the functional analysis captured the meaning and tone of a message. By doing so a more multidimensional approach was taken contributing to a more accurate and holistic account of gender's on-line styles.

As intriguing as the findings are, the limitations of the study need to be noted. From the standpoint of external validity, the study gathered data from one organization in the Silicon Valley, which limits the generality of the results. It may well be, for instance, that there is a bias in the elementary "charter style" industry that restricts my ability to generalize to other organizations. For example, the supportive tone of this organization may be due to the fact the participants are more open to cooperating idea as evident in their choice of an alternative education, in which staff and parents must cooperate to run the school. Or a supportive tone may be the case that participants are more computer savvy due to their geographical location in the Silicon Valley and therefore did not experience difficulty communicating in this CMC medium.

Another limitation of this study and consistent with current studies is the heavy reliance on past and possibly out-of-date research (Poynton, 1989; Tannen, 1991) to determine language indicators and interpret gender meanings. For example, the more modern word *really* and *all capital letters* was added to Poynton's word category "intensifiers" list in order to capture a more accurate account of on-line intensifiers found in the current study. This creates concern of generality to today's fast paced technology population in that new terms are created to accommodate highly technological terminology.

Future studies need to clarify the broad spectrum of what is considered a negative versus positive function in an email message. For example, determining what is an aggressive or supportive email orientation may be too subjective. It is important for future application of similar studies to define such categories more accurately as to prevent over generality or stereotypes to taint empirical findings.

Conclusion

This study raised the questions about the way in which gender may impact email discussions, commonly referred to as "looking through the lens of gender." Taking this approach did not mean to ignore either the similarities between experiences of women and men or the diversity within each category. What it did mean was for the purpose of this research, I adapted to a heightened sensitivity towards ways in which gender structures communication and institutions. By doing so, it was demonstrated how social influences such as stereotypes, cultural socialization, and information usefulness help shape how genders interact. In light of these findings, it remains important to further

explore gender communications styles and its effects on CMC users; however, of greater concern is how virtual gender communications are interpreted and have changed from previous studies. Consequently, researchers must resolve the challenge of reporting findings so as not to continue to encode information about people on the basis of gender in a way that is positive for men and negative for women. Information can be conveyed in a manner that is respectful to all styles regardless of a degree of difference or similarity. Furthermore, information is capital. If women are to become full members of the communication network, their communication styles need to be recognized for both their informational and relational message contributions.

In conclusion, the present findings are intended to foster a better understanding of differences between gender in email messages. In today's vast flow of information and technology, ways to communicate are increasing and changing the professional environment. The ability to participate effectively in the electronic virtual organization has become an essential skill. The idea of being a better communicator is commonly associated with becoming a better sender; but rarely do we learn about becoming a better receiver. WWW, email, and discussion groups may be the break thorough in learning to receive information well thus eliminating gender barriers. Understanding the differences between gender messages, may in fact, tailor our response to eliminate stereotypes, assumptions, bias, etc. and foster better, safer virtual relationships in communities, academics, and businesses.

Additionally, to the extent that gender has a bearing on the effectiveness of communication patterns, communicators need to be informed about how to create a more

favorable online communication environment –one that depends not only on organizational contextual factors, but also on the gender of its users. Such a consideration might not only have impact on actual deployment of communication media, but also, with respect to computer anxiety, a decided impact on organizational training and implementation programs. The more knowledgeable people are in conducting cyberspace communications, the better prepared they will be to serve the virtual public.

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Table 2

Means & Standard Deviation of Language Indicators by gender

Variable	<u>Mean and SD</u>		t-value
	Male (n=28)	Female (n=40)	
Modals	1.75 (1.69)	.75 (.90)	3.16**
Modal adverbs	.04 (.01)	.00 (.00)	1.19
Interpersonal metaphors	.11 (.19)	.10 (.30)	.94
Polite expressions	.64 (.91)	1.25 (.98)	-2.59**
Statements	6.46 (5.74)	3.83 (3.01)	2.47**
Evaluative adjectives	.11 (.32)	.25 (.54)	-1.25
Approximation	.57 (.10)	.10 (.30)	2.82**
Intensifiers	.90 (1.37)	.60 (.87)	1.08
Question Marks	.25 (.44)	.63 (.74)	-2.39**
Exclamation Marks	.25 (.84)	.33 (.66)	-.41

*p < .05; **p < .01

Table 3

Means & Standard Deviation of Aggression and Supportive Style by gender

	Style		Total
	<u>Mean and s.d.</u> Aggression	<u>Mean and s.d.</u> Supportive	
Male n=28	1.54 (2.28)	.93 (.86)	1.23 (1.10)
Female N=40	.23 (.80)	1.37 (1.25)	.80 (.68)
Total	.76 (1.70)	1.19 (1.12)	.97 (.90)

Table 4

Frequency of Posting purpose by gender

	<u>Posting Purpose</u>				Total
	Networking	Authority	Humor	FYI	
Male Within Gender	9 (32%)	15 (54%)	1 (4%)	3 (11%)	28 (100%)
Female Within Gender	19 (48%)	15 (38%)	1 (3%)	5 (13%)	40 (100%)
Total Within Gender	28 (41%)	30 (44%)	2 (3%)	8 (12%)	68 (100%)

Appendix A

Comparing Gender and Language Indicator Research and Hypothesis

Variable	Poynton (1989)	Rossetti (1997)	<u>Current Study</u> Hypothesis
Modals	Women*	Men	Women
Modal adverbs	Women*	Women*	Women
Interpersonal metaphors	Women*	Both	Women
Polite expressions	Women*	Women*	Women
Statements	Men*	Men*	Men
Evaluative adjectives	Women*	Women*	Women
Approximation	Women	Men*	Men
Intensifiers	Women*	Both	Women
Question Marks	Women*	Men	Women
Exclamation Marks	Women*	Both	Women

* In accordance with hypothesis

Appendix B

Male and Female Aggressive/Sarcastic Expressions

(N = 68 email messages)

<u>Male</u> (n = 28)	<u>Female</u> (n = 40)
<p>...respond DIRECTLY TO ME, as I asked before do not reply to the entire List ASAP.</p> <p>...I just wanted to make it clear.</p> <p>Bottom line is that there WAS a problem...</p> <p>...believe me I read the manual, I know what I am talking about.</p> <p>That's right!! We could use more participants! It would hurt if everyone did their part to help.</p> <p>Well I need more information than that! ...YOU take the time to try again. Maybe then I will try to help!</p> <p>...the email I forwarded was NOT one of the first couple of rejection notices which puzzled our so called "expert".</p> <p>Just for clarification's sake...</p> <p>PLEASE DO LOOK INTO IT and don't ASS-U-ME or dismiss it as operator error.</p> <p>That's what I'm not clear about! Someone will need to clarify ASAP before I will participate.</p> <p>I for one will have a hard time TRUSTING them....</p> <p>That's right!</p> <p>I want to hear proposals on how to speed things up, not about delays!</p>	<p>If I've forgotten anything. don't wait till the next meeting...It will be to late!</p> <p>Sorry...maybe next time you will know better, if your lucky!</p> <p>...we ARE going forward with this for now, if nothing else to be able to immediately address the concerns!</p> <p>...it is way too difficult to try to encourage people to take leadership in schools, to have them become discouraged because others do not communicate...remember....it is immoral for anyone to assume "ownership" over anything about the school...they belong to the children!!! ☹ ☺</p> <p>Shouldn't we (someone! anyone!) be more concerned about the proposed solution?</p>

Appendix C

Male and Female Supportive Expressions

(N = 68 email postings)

<u>Male (n = 28)</u>	<u>Female (n = 40)</u>
<p>It sure was great to hear from you.</p> <p>If you have any concerns, you may contact me.</p> <p>I would welcome help with the coaching.</p> <p>Sorry, I have no control over that but try... hope this helps.</p> <p>Thanks for your patience.</p> <p>Thanks! For helping!</p> <p>I agree.</p> <p>Your input is appreciated!</p>	<p>Anybody have any good ideas?</p> <p>If anyone can't be there, I can make arrangements...</p> <p>Thanks for the Update! I am especially pleased...</p> <p>I'm sure many of the upper graders are happy to be able to participate.</p> <p>I came across this offer...and thought I'd share</p> <p>I want to be sure we're being open to all parents..</p> <p>The more the merrier!</p> <p>Thanks for your support...</p> <p>I appreciate your concerns</p> <p>Please let me know how or what I can do to help.</p> <p>Great email</p> <p>Thanks for taking the time.</p> <p>Thanks again for all the offers to help.</p> <p>I hope I didn't leave anyone out!</p> <p>....shared a wonderful idea</p> <p>Hope this might work for some of you. ☺</p> <p>Apologies,</p> <p>A big thanks to...for organizing this one. It was a great time.</p> <p>Thank you to all of you who....</p> <p>Feel free to call on me...</p> <p>I know it is confusing at first but hang in there.</p> <p>All are welcome...</p>

Appendix D

Total Number and Percentage of Language Indicators (N = 68)

Variables	Male (n = 28)		Female (n = 40)	
	# Found	%	# Found	%
Modals				
Might	3	14%	5	15%
Could	2	10%	2	6%
Should	0	0%	6	18%
Ought	0	0%	0	0%
Must	5	24%	1	3%
Can	7	33%	12	36%
May	0	0%	1	3%
Would	4	19%	6	18%
Sum:	21	100%	33	100%
Modal Adverbs				
Possibly	0	0	0	0
Certainly	1	100%	0	0
Probably	0	0	0	0
Sum:	1	100%	0	0%
Interpersonal Metaphors				
Think	1	33%	4	100%
Suppose	0	0%	0	0
Wonder	2	67%	0	0
Sum:	3	100%	4	100%
Polite Expression				
Please	8	47%	18	35%
Thank(s)	6	35%	29	57%
Sorry	1	6%	1	2%
Apologize	0	0%	2	4%
Appreciate	2	12%	1	2%
Sum:	17	100%	51	100%

Appendix D (cont.)

Total Number and Percentage of Language Indicators (N = 68)

Variables	Male (n = 28)		Female (n = 40)	
	# Found	%	# Found	%
Statements				
Sure	3	2%	4	3%
Not sure	0	0%	0	0%
Pretty/quite sure	1	1%	0	0%
Is	44	24%	48	31%
Are	30	17%	13	8%
Is	74	41%	69	44%
We	28	16%	22	14%
Sum:	180	100%	156	100%
Evaluative Adjectives				
Wonderful	0	0%	2	20%
Gorgeous	1	33%	0	0%
Delightful	0	0%	0	0%
Excellent	0	0%	1	10%
Great	2	67%	5	50%
Good	0	0%	2	20%
Sum:	3	100%	10	100%
Approximation				
Perhaps	2	13%	0	0%
Maybe	2	13%	2	50%
About	11	69%	1	25%
Around	1	6%	1	25%
Approximately	0	0%	0	0%
Sum:	16	100%	4	100%
Intensifiers				
So	14	56%	9	38%
Very	1	4%	9	38%
Only	1	4%	1	4%
Really	2	8%	2	8%
All Capital Letters	7	28%	3	13%
Sum:	25	100%	24	100%
Question Marks				
	6	46%	26	67%
Exclamation Marks				
	7	54%	13	33%
Sum	13	100%	39	100%

Appendix E

Comparing Gender and Language Indicator Research and Results

Variable	Poynton (1989)	Rossetti (1997)	<u>Current Study</u>	
			Hypothesis	Results
Modals	Women	Men*	Women	Men
Modal adverbs	Women	Women	Women	Both
Interpersonal metaphors	Women	Both*	Women	Both
Polite expressions	Women*	Women*	Women	Women
Statements	Men*	Men*	Men	Men
Evaluative adjectives	Women	Women	Women	Both
Approximation	Women	Men*	Men	Men
Intensifiers	Women	Both*	Women	Both
Question Marks	Women*	Men	Women	Women
Exclamation Marks	Women	Both*	Women	Both

* In accordance with the current study